

# State HIE Toolkit

## [www.statehieresources.org](http://www.statehieresources.org)

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### Financing Overview

Participants in the State HIE Cooperative Agreement Program must address two key components related to financing. These include:

- Ensuring fiduciary oversight, including appropriate management of funds and compliance with specific cooperative agreement requirements e.g. for matching funds; and
- Planning for sustainable statewide HIE financing, including a sound approach for sustaining the various interrelated statewide HIE infrastructure components at local, regional and state levels (policy, technical and legal components to support information exchange within and across institutional and business boundaries.)

## Fiduciary Oversight

In accordance with the State HIE Program Funding Opportunity Announcement, cooperative agreement recipients must demonstrate the capability to manage the federal and matching funds to develop and implement their Strategic and Operational Plans. The entities that serve as the State HIE Program fiscal agents, whether they are State agencies and State Designated Entities, will need appropriate staffing, procedures to monitor spending, and financial controls and systems that meet federal requirements. As the State HIE Programs will involve multiple projects, funding streams and sub-contractors, it will be critical for State HIE awardees to define and document the processes for project financial planning, decision-making for resource allocation, due process, and review and oversight of sub-recipients' activities.

- **Financial Oversight Staffing.** State HIE Program awardees should include staff and systems for adequate financial oversight and reporting. Each awardee must identify senior organizational leadership (e.g., a Treasurer officer or equivalent position in the case of an independent organization) who will be accountable for its organizational finances. In addition, awardees must dedicate personnel to conduct the day-to-day financial transactions and record payments, income, and payroll.
- **Financial Oversight Resources and Processes.** State HIE Program awardees must comply with all appropriate [Office of Management and Budget Circulars](#), (e.g, Circular A-87 for States and Circular A-110, A-122 for not-for-profit organizations). Financial statements should be prepared and audited in accordance with [Generally Accepted Accounting Principles \(GAAP\)](#).
- **Approval for Financial Expenditures.** The recipient shall submit an annual Financial Status Report. An SF-269 financial status report is required within 90 days of the end of each budget and project period. The report is an accounting of expenditures under the project that year. More specific information on this reporting requirement will be included in the Notice of Grant Award.

## Addressing Matching Funds

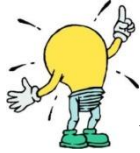
The HITECH Act requires State HIE Program awardees to provide and document the expenditure of matching funds starting in the federal fiscal year 2011, which begins October 1, 2010. As the table below illustrates, State HIE Program awardees matching requirements increase each year of the program.

## Program Matching Requirements

Fiscal Year	Calendar Year	Match Requirement
2010	Oct 1, 2009- Sept 30, 2010	None
2011	Oct 1, 2010- Sept 30, 2011	\$1 for each \$10 federal dollars
2012	Oct 1, 2011- Sept 30, 2012	\$1 for each \$7 federal dollars
2013	Oct 1, 2012- Sept 30, 2013	\$1 for each \$3 federal dollars

For FY 2011, the applicant's match requirement is \$1 for every \$10 federal dollars. In other words, for every ten dollars received in federal funding, the applicant must contribute at least one dollar in non-federal resources toward the program's total cost. For example, if \$100,000 in federal funds is requested for FY2011, then the minimum match requirement is \$100,000/10 or \$10,000. In this example the program's total cost would be \$110,000. Matching requirements can be provided through cash and/or in-kind contributions. Demonstration of this match will be shown in quarterly financial reports that the awardees submit to the Grants Office.

**Please Note:** If the required non-federal share is not met by the award recipient, ONC will disallow any unmatched federal dollars.



Your HHS **Grants Management Specialist** can address questions regarding the financial and administrative aspects of your award.

## Building and Sustaining Health Information Exchange

The goal of building and sustaining HIE is to create a cost-effective shared utility that can expand interoperability to a broad range of stakeholders across a continuum of purposes, the end result of which is accumulated benefit for all.

Facilitating statewide interoperability is a complex, multi-year proposition that requires capital funds to build the governance, policy, and technical infrastructure and sustainable revenue sources to maintain and enhance that infrastructure. To create and sustain a market for HIE, stakeholders must develop a governance, financing, policy and technical infrastructure that both supplies high-value HIE services and sustains demand.

[Research on state-level HIE](http://statehieresources.org/the-toolkit/finance/finance-overview/) suggests that no single financing strategy works across all settings and circumstances. Instead States and/or State-designated Entities must assess the opportunities, constraints and limitations inherent to the various public and private funding sources and optimize its strategy based on the characteristics of its health care market and the HIE services that will be deployed.

As States and State-designated Entities develop financing plans to build or expand HIE services, they face a number of challenges based on the nature of interoperability and the structure of the health care delivery and financing system.

<http://statehieresources.org/the-toolkit/finance/finance-overview/>

- **Diffuse Value.** In the fragmented health market, no single payer, provider, or purchaser dominates the system. In this environment, any individual stakeholder's investment in HIE generates benefits not only for its constituents, but those of its competitors as well. In this sense, HIE resembles a "public good" in that it that multiple entities can benefit from the technological advance at the same time without reducing its value. Faced with the prospect of their economic benefits "leaking" to others, stakeholders have little incentive to make the significant investments required to establish and participate in interoperable HIE. While the value provided in aggregate to the patient and community is compelling, the costs exceed the value any individual entity will receive for its investment.
- **Disruptive Nature to Existing Investments.** Many health care entities (including state agencies, laboratories, hospitals, etc.) have made significant investments in HIT systems to meet internal objectives. The introduction of new HIE services, whether at the regional or state-level, can poses significant disruption to organizations' operational plans and investment strategies. For hospitals and providers with low operating margins face, upgrading systems and building interfaces to participate in HIEs can be cost prohibitive.
- **Differing Investment Horizons.** State agencies, hospitals, community clinics, providers, etc. have varying expectations on the scope and timing of the returns on their investments for participating in HIE. On the one hand, policy-makers are likely to view investment as an infrastructural activity with longer time horizons. Private sector organizations, traditionally view investments through the lense of more near term economic performance. There is also a gap between the long-term goals of HIE and the short-term interests of HIE stakeholders.

Like other investments, making informed decisions regarding the timing and focus of eHealth investments requires a thorough understanding of: (1) the nature and timing of both start-up and ongoing costs; (2) the anticipated magnitude and timing of savings or revenue generation based on the services offered; (3) the characteristics and requirements of multiple funding sources.

In addition, creating and sustaining the HIE infrastructure requires an understanding of the nature, timing, and implications of investments at multiple levels and across many institutions. As such, financing HIE is necessarily a collaborative endeavor and will require the development of a sustainability model that is informed by business plans at the state, regional, and enterprise level.

## Building a Sustainability Plan

As part of their Strategic Plans, State HIE Program awardees must develop “a business plan that enables for the financial sustainability, by the end of the project period of HIE governance and operations.” Achieving statewide interoperability is not a static target that is completed after initial planning and implementation stages. Efforts to build statewide HIE capacity require development of business plans to address both the capital needs and the ongoing challenges of sustaining the infrastructure for interoperability that is needed as part of a high-performing health care system.

Whether using internal staff or assistance from external consultants, below are key steps to building a sustainability plan. For your reference, the State-level HIE Consensus project maintains [inventory of publicly available business and sustainability plans](#).

### 1. Develop Financing Principles

Defining core principles to guide the planning and implementation is a foundational activity for advancing interoperability amongst diverse stakeholders. Stakeholders, convened through a consensus-based, inclusive governance processes, identify principles and goals for how activities should be funded and financed, which in turn shape the selection, prioritization, and timing of investments and service implementation.

A sample of financing principles and goals from publicly available Statewide HIE Strategic Plans are provided in the table below.

### Sample Financing Principles from State HIE Strategic Plans

Florida	Maryland	Pennsylvania
The cost of entry into the State HIE solution should be minimized for healthcare providers, the cost of access to the State HIE solution should not become a barrier.	State monies should be leveraged to achieve a sustainable business model.	Assure sufficient state match for federal ARRA funding for initial planning and implementation costs for Pennsylvania Health Information Exchange (PHIX).
Long term funding of the State HIE operational cost, beyond the ARRA grant funding cannot be borne by health care providers.	The participants in the statewide HIE will be willing to pay fees relative to the value they gain from using the exchange.	Create a sustainable business model including public/private financing mechanisms for PHIX.
The largest financial benefactor of the adoption of health information technology	The value of EHR adoption and HIE participation by physicians has been markedly increased by the Medicare and Medicaid payment incentives for	Minimize the impact of PHIX user costs for the provider and payer communities to

<p>and the exchange of health information technology will be health insurers/payors; therefore, consideration should be given to aligning their cost benefit.</p> <p>The State HIE plan should require minimal initial capital investment as well as ongoing operational cost, previous investments in health information exchange should be maximized and duplication of investment and efforts should be minimized.</p> <p>Pricing of services will be based on the value of these services to stake-holders and their willingness to pay. This must go well beyond public/private funding mechanisms. An electronic information marketplace must have buyers and sellers to ensure financial sustainability.</p>	<p>meaningful use.</p> <p>The financial model should not rely on grant funding, even though grants may be available for future projects and expansions.</p> <p>Revenue should not be sought disproportionately from any one stakeholder or group of stakeholders.</p> <p>Properly developed subscription fee models that incentivize higher utilization of HIE services can provide stability in revenue planning.</p>	<p>promote HIE participation.</p> <p>Ensure fair distribution and equitable allocation of costs for the support of PHIX.</p> <p>Leverage existing sources of funding wherever possible (i.e., Public Health Programs, Centers for Medicare and Medicaid Services) for financing PHIX.</p> <p>Define the business case for PHIX, including the expected return on investment, business value and potential cost savings.</p> <p>Establish mechanisms and processes to effectively manage the funding and provide for the required reporting and accountability necessary to implement and manage PHIX.</p>
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## 2. Identifying and Prioritizing Funded Activities

Once goals and objectives are agreed upon, stakeholders should identify and prioritize the development of the governance and technical capabilities that will be needed to create and sustain interoperability.

### Governance Activities

Foundational to creating a viable infrastructure for HIE is the establishment of the governance capacity to oversee and guide HIE planning and implementation. Studies by the [State Alliance for e-Health](#) and the [State-level HIE Consensus Project](#) show that initial investments are needed to:

<http://statehieresources.org/the-toolkit/finance/finance-overview/>

- Convene stakeholders
- Define roles, relationships and authorities
- Set up a structure to coordinate efforts across stakeholders
- Establish and maintain committees and workgroups with appropriate representation to design policies and procedures
- Develop appropriate documents and agreements to stay in compliance with existing state and federal regulatory requirements
- Procure the appropriate technical and professional resources to design and deploy an exchange

The State-level HIE Consensus Project maintains an inventory of [Requests for Proposals \(RFPs\)](#) and [Requests for Information \(RFIs\)](#) for governance functions, planning efforts, evaluation services, etc.

## Technical Activities

Decision makers have a wide range of HIE services from which to choose, ranging from core services (e.g., master person indexes, record locator services, authentication) to value added applications (e.g., electronic prescribing, automated quality reporting, clinical results delivery, clinical decision support). Additional details on HIE services can be found in the [Technical Infrastructure](#) module.

Selection and sequencing of candidate services should be assessed across the following criteria:

- the requirements to enable practitioners and hospitals to become meaningful users of certified EHR systems
- the clinical value generated,
- the degree of competition for the service,
- the breadth and depth of potential customers,
- anticipated net revenue and return on investment,
- technical difficulty, and
- vendor interest, capabilities, and costs for service provision.

Ascertaining the clinical and administrative value of interoperability varies across use cases and stakeholders. Currently, statewide HIE planners utilize a small, but growing body of evidence that quantify the efficacy and benefits of HIE in specific settings or use cases. The table below illustrates a few of the studies supporting the benefits of HIE deployment.

## Value of HIE Services

Use Case	Studies and Relevant Findings	State-level & Regional HIE Examples
Chronic Disease Management through Clinical Health Records and Decision Support Tools	<p>QualChoice (2005) found that use of clinical reminder system to support disease management resulted in savings of \$8.07 per member per month.</p> <p>Shared Health study (2007) found that physicians use of a claims-based EHR reduced length of hospital stays and lowered admission rates for their patients</p>	<p><b><u>State-level HIEs</u></b> VITL (Vermont)</p> <p><b><u>Regional HIEs</u></b> CareSpark (TN, VA) BHIX (New York)</p>
Clinical Results Delivery	The Indiana Health Information Exchange (IHIE) estimated that its clinical messaging system reduced the cost to deliver reports by 50%.	<p><b><u>State-level HIEs</u></b> DHIN (Delaware)</p> <p><b><u>Regional HIEs</u></b> HealthBridge (OH, KY, IN) IHIE (IN)</p>
eRx (e.g., health plan eligibility & formulary, med history, new Rx and renewal requests)	Multiple studies show savings from error reduction and increased formulary compliance.	<p><b><u>State-level HIEs</u></b> MA-SHARE Rx Gateway (MA) SHIN-NY (NY)</p> <p><b><u>Regional HIEs</u></b> Regenstrief INPC (IN)</p>
Provision of Patient Data to Physicians in Emergency Departments	<p>Regenstrief study (2002) found that use of clinical records could decrease ED care charges by \$26 per encounter.</p> <p>HealthCore study (2006) found that ED visit that included patient clinical summary yielded \$604 cost savings per encounter.</p> <p>Vanderbilt study (2007) estimated \$8 million in annual savings if an HIE delivered data to EDs in Memphis TN.</p>	<p><b><u>State-level HIEs</u></b> VITL (Vermont) RIQI (Rhode Island) CalRHIO (California)</p> <p><b><u>Regional HIEs</u></b> MidSouth eHealth Alliance (TN)</p>

Use Case	Studies and Relevant Findings	State-level & Regional HIE Examples
Public Health Reporting	Regenstrief (2008) found that automated electronic laboratory reporting improves the completeness and timeliness of disease surveillance, which will enhance reporting efficiency.	<u>State-level HIEs</u> SHINY-NY (NY) VITL (Vermont)  <u>Regional HIEs</u> IHIE (IN)

### 3. Technical Costs

Determining technical implementation costs depends on the State's goals for the pace and types of HIE services deployed at the local, regional, and state levels. Upfront and estimated annual costs for building HIE capacity vary considerably depending on the proposed range of services, the intended users and participants, and vendor negotiation and selection. Cost categories for technical capacity typically include:

- Hardware and data center related costs: servers, network hardware, network connectivity, data backup systems, data storage systems, and other related costs
- Software: clinical user authentication and security, patient identification (master patient indices [MPI]), firewall software, clinical repositories, record locator services, viewing applications (i.e., Web portal), EHR/EMR software, common vocabulary engines, auditing software, and licensing/support/maintenance for all applications and other tools
- Stakeholder interface creation and maintenance: interfaces with radiology centers, laboratories, microbiology centers, blood banks, pharmacies, practice management systems, EMR/EHRs, administrative/claims processing systems, and others
- Training/help desk: end-user training, help-desk costs

Costs are not merely a function of technical implementation. Effort and expenditure must be dedicated not only to technology and organization, but just as importantly to research, development of tools and training so that information technology is not merely a mechanism for converting paper data to digital data but actually supports providers in their problem-solving and decision-making. Consumers and providers will need training and services to support their ability to be meaningful users of the ever increasing volumes and complexity of data that will be made available through the health information infrastructure. Often state-level HIE organizers utilize Requests for Information and Requests for Proposals to identify functionality, costs, and the readiness of vendors and the marketplace.

The State-level HIE Consensus Project maintains an [inventory of Requests for Proposals \(RFPs\) and Requests for Information \(RFIs\) for technical implementation](#), core services, etc.

## 4. Assess Available Funding Sources and Mechanisms

As noted above, financing of statewide HIE will require collective approaches that draw funds from the public, non-profit, and for-profit sectors. As no single financing strategy works across all states, State HIE Program awardees must identify the opportunities, constraints and limitations inherent to the various funding sources and create a strategy based on the characteristics of its health care market.

### Available funding sources include:

- federal grants and contracts
- meaningful use administrative and incentive funds
- state funds (e.g., matching grant, bond issue, contract, tobacco settlement funds)
- insurance demutualization funds
- foundation grants
- stakeholders

State HIE Program awardees can align the funding sources to a variety of funding mechanisms including:

- **Subscription Fees.** Data providers or data users pay fees to the HIE on a subscription basis. Subscriptions can be in the form of annual membership, monthly subscription, or specific set fees for services consumed (e.g., infrastructure management, applications – MPI/RLS, etc.). There may be fee levels (tiers) based on relative size (expenses or number of results delivered). One advantage to this approach is that it provides a more predictable cost for the member organization and a more predictable funding stream for the HIE services. Another advantage is that it avoids the need to track what can amount to millions of transactions a month and affixing charges to each transaction. As an accounting function, subscription fees, which can also be seen as membership dues, are less challenging to measure than transactions fees and are not as susceptible to accounting error.
- **Transaction Fees.** Organizations may charge transaction fees for data exchange services or products on the basis of benefit to participants. Unlike the membership fee model, dependence on this revenue source requires initial capital investments to build the infrastructure and capabilities for calculating transaction fees. Transaction fee arrangements include: fees per clinical result delivered, per covered life per member/per month, and/or per month for license to use a particular software package over the Internet. When creating a financing model based on transaction fees, issues to consider include: (1) assignment of additional fees on transactions may discourage system utilization; (2) a critical mass of volume may be needed before revenue is generated; and (3) the challenge of developing billing mechanisms around the complex transactional models in health care.

- **Risk Sharing Arrangements.** Vendors share in the risk by charging a lower upfront cost in exchange for getting paid a percentage of savings plus additional funds. For example, under the terms of the contract, the vendor may bear responsibility for most of the costs associated with the development and operation of the HIE, regardless of the portal's profitability; if profitable, the vendor could retain any savings that accrue plus a percentage of the revenue generated by the HIE.

## 5. Determine Sequence, Timing, and Build A Budget

In order to build a credible sustainability plan, a pro-forma budget should be created that takes into consideration the timing, amount, risks and practical implications of each funding source and the commensurate costs.

Florida	Maryland	Pennsylvania
<ul style="list-style-type: none"> <li>• The cost of entry into the State HIE solution should be minimized for healthcare providers, the cost of access to the State HIE solution should not become a barrier.</li> <li>• Long term funding of the State HIE operational cost, beyond the ARRA grant funding cannot be borne by health care providers.</li> <li>• The largest financial benefactor of the adoption of health information technology and the exchange of health information technology will be health insurers/payors; therefore, consideration should be given to aligning their cost benefit.</li> <li>• The State HIE plan should require minimal initial capital investment as well as ongoing operational cost, previous investments in health information</li> </ul>	<ul style="list-style-type: none"> <li>• State monies should be leveraged to achieve a sustainable business model;</li> <li>• The participants in the statewide HIE will be willing to pay fees relative to the value they gain from using the exchange;</li> <li>• The value of EHR adoption and HIE participation by physicians has been markedly increased by the Medicare and Medicaid payment incentives for meaningful use;</li> <li>• The financial model should not rely on grant funding, even though grants may be available for future projects and expansions;</li> <li>• Revenue should not be sought disproportionately from any one stakeholder or group of stakeholders; and</li> <li>• Properly developed subscription fee models that incentivize higher</li> </ul>	<ul style="list-style-type: none"> <li>• Assure sufficient state match for federal ARRA funding for initial planning and implementation costs for Pennsylvania Health Information Exchange (PHIX)</li> <li>• Create a sustainable business model including public/private financing mechanisms for PHIX</li> <li>• Minimize the impact of PHIX user costs for the provider and payer communities to promote HIE participation</li> <li>• Ensure fair distribution and equitable allocation of costs for the support of PHIX</li> <li>• Leverage existing sources of funding wherever possible (i.e., Public Health Programs, Centers for Medicare and Medicaid Services) for financing PHIX</li> <li>• Define the business case for PHIX, including the</li> </ul>

<p>exchange should be maximized and duplication of investment and efforts should be minimized.</p> <ul style="list-style-type: none"> <li>• Pricing of services will be based on the value of these services to stake-holders and their willingness to pay. This must go well beyond public/private funding mechanisms. An electronic information marketplace must have buyers and sellers to ensure financial sustainability.</li> </ul>	<p>utilization of HIE services can provide stability in revenue planning.</p>	<p>expected return on investment, business value and potential cost savings</p> <ul style="list-style-type: none"> <li>• Establish mechanisms and processes to effectively manage the funding and provide for the required reporting and accountability necessary to implement and manage PHIX</li> </ul>
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